REMARKS

Claims 45 and 46 (originally numbered as 47 erroneously, and renumbered in Office Action) have been canceled without prejudice.

Claims 1, 3, 17, 19, 33, and 35 are amended.

Claims 1-44 are pending.

Rejections under 35 U.S.C. §102(e)

Although not completely clear from the Office Action (due to possible typographical error), it appears that **Claims 1-3, 10, 17, 26, 33, and 42** stand rejected under 35 U.S.C. §102(e) as being anticipated by *Kitagawa et al.* (U.S. Patent No. 6,078,541). If this assumption is incorrect, please restate the rejection(s).

Applicants traverse these rejections for at least the following exemplary reasons, and respectfully request that the rejections be reconsidered and withdrawn.

Kitagawa et al. disclose a system having non-volatile memory in which a loader program, decompression program and compressed device operating program are stored. With the loader and decompression programs, the device operating program is decompressed and loaded.

Independent **Claim 1** is directed to a method that includes receiving file system data, storing the file system data in a plurality of reserved sectors within a non-volatile memory, compressing the file system data stored within in the plurality of reserved sectors to create a compressed data block, and storing the compressed data block in at least one physical subsector within the non-volatile memory, wherein the physical subsector is associated with at least one virtual

sector identifiable through sector allocation information stored in a volatile memory that is operatively accessible by an operating system. **Claims 2, 3 and 10 each** depend from independent Claim 3 and recite additional claim limitations.

Kitagawa et al. neither disclose nor suggest a method and storing this type of compressed data block in at least one physical subsector within the non-volatile memory, and having the physical subsector associated with at least one virtual sector identifiable through sector allocation information stored in a volatile memory that is operatively accessible by an operating system.

Independent **Claim 17** is directed to a computer-readable medium having computer-executable instructions for performing steps that include receiving file system data, storing the file system data in a plurality of reserved sectors within a non-volatile memory, compressing the file system data stored within in the plurality of reserved sectors to create a compressed data block, and storing the compressed data block in at least one physical subsector within the non-volatile memory, wherein the physical subsector is associated with at least one virtual sector identifiable through sector allocation information stored in a volatile memory that is operatively accessible by an operating system. **Claim 26** depends from independent Claim 17 and recites additional claim limitations.

Again, *Kitagawa et al.* neither disclose nor suggest a computer readable medium for performing storage of this type of compressed data block in at least one physical subsector within the non-volatile memory, and having the physical subsector associated with at least one virtual sector identifiable through sector allocation information stored in a volatile memory that is operatively accessible by an operating system.

Independent **Claim 33** is directed to an arrangement that includes an operating system and a device driver. As recited, the operating system is configured to exchange input/output (I/O) requests with the application and exchange corresponding file system requests with the device driver, and the device driver is configured to store the file system data received from the operating system in a plurality of reserved sectors within the non-volatile memory, compress the file system data stored within in the plurality of reserved sectors to create a compressed data block, and store the compressed data block in at least one physical subsector within the non-volatile memory. The physical subsector is associated with at least one virtual sector identifiable through sector allocation information stored in a volatile memory that is operatively accessible by the operating system. **Claim 42** depends from independent Claim 33 and recites additional claim limitations.

Clearly, *Kitagawa et al.* neither disclose nor suggest such an arrangement. There simply are not physical subsectors associated with virtual sectors in *Kitagawa et al.* and/or related sector allocation information stored in volatile memory and used by the operating system of the device taught by *Kitagawa et al.*

Consequently, all of the pending claims, Claims 1-44, are each patentable over *Kitagawa et al.*

Rejections under 35 U.S.C. §103(a)

Claims 2, 3, 7-16, 18, 19, 23-32, 34, 35, and 39-44 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Kitagawa et al.* in view of *Franaszek et al.* (U.S. Patent No. 6,401,181).

Applicants traverse these rejections for at least the following exemplary reasons, and respectfully request that the rejections be reconsidered and withdrawn.

As mentioned above, *Kitagawa et al.* disclose a system having non-volatile memory in which a loader program, decompression program and compressed device operating program are stored.

Franaszek et al. disclose techniques for dynamically allocating physical memory and recovering unused memory. These techniques include using a translation table having pointers that map CPU generated memory addresses to actual sectors of the physical memory. Memory controllers are employed to help control memory pools and populate free lists of pointers for memory space that is available for use. The techniques disclosed in *Franaszek et al.* are for volatile dynamically allocated memory systems. The techniques of *Franaszek et al.* do not address compressed file systems. The techniques taught by *Franaszek et al.* do not therefore disclose or otherwise suggest methods and arrangements that have a compressed data block stored in at least one physical subsector within the non-volatile memory, and having the physical subsector associated with at least one virtual sector identifiable through sector allocation information stored in a volatile memory that is operatively accessible by an operating system.

Furthermore, there appears no motivation to combine the teachings of *Kitagawa et al.* and *Franaszek et al.* that would result in the claimed invention, especially since *Kitagawa et al.* are interested in simply decompressing a compressed operating system from non-volatile memory and thereafter operating a file system strictly in volatile memory and *Franaszek et al.* are interested in

managing dynamically allocated volatile memory and do not address compression or non-volatile based file systems.

Turning to the claims, **Claims 2, 3, and 7-16** depend from independent Claim 1, which is directed to a method that includes receiving file system data, storing the file system data in a plurality of reserved sectors within a non-volatile memory, compressing the file system data stored within in the plurality of reserved sectors to create a compressed data block, and storing the compressed data block in at least one physical subsector within the non-volatile memory, wherein the physical subsector is associated with at least one virtual sector identifiable through sector allocation information stored in a volatile memory that is operatively accessible by an operating system.

Neither *Kitagawa et al.* and/or *Franaszek et al.* disclose or reasonably suggest a method and storing this type of compressed data block in at least one physical subsector within the non-volatile memory, and having the physical subsector associated with at least one virtual sector identifiable through sector allocation information stored in a volatile memory that is operatively accessible by an operating system.

Claims 18, 19 and 23-32 depend from independent **Claim 17**, which is directed to a computer-readable medium having computer-executable instructions for performing steps that include receiving file system data, storing the file system data in a plurality of reserved sectors within a non-volatile memory, compressing the file system data stored within in the plurality of reserved sectors to create a compressed data block, and storing the compressed data block in at least one physical subsector within the non-volatile memory, wherein the physical subsector is associated with at least one virtual sector identifiable through sector allocation

information stored in a volatile memory that is operatively accessible by an operating system.

Neither *Kitagawa et al.* and/or *Franaszek et al.* disclose or suggest a computer readable medium for performing storage of this type of compressed data block in at least one physical subsector within the non-volatile memory, and having the physical subsector associated with at least one virtual sector identifiable through sector allocation information stored in a volatile memory that is operatively accessible by an operating system.

Claims 34, 35 and 39-44 depend from independent **Claim 33**, which is directed to an arrangement that includes an operating system and a device driver. As recited, the operating system is configured to exchange input/output (I/O) requests with the application and exchange corresponding file system requests with the device driver, and the device driver is configured to store the file system data received from the operating system in a plurality of reserved sectors within the non-volatile memory, compress the file system data stored within in the plurality of reserved sectors to create a compressed data block, and store the compressed data block in at least one physical subsector within the non-volatile memory. The physical subsector is associated with at least one virtual sector identifiable through sector allocation information stored in a volatile memory that is operatively accessible by the operating system. **Claim 42** depends from independent Claim 33 and recites additional claim limitations.

Kitagawa et al. and/or *Franaszek et al.* fail to disclose or suggest such an arrangement.

Regarding **Claims 4-6, 20-22 and 36-38**, the Office Action correctly stated that these dependent claims are patentable over *Kitagawa et al.* and/or *Franaszek*

et al. The amendments to independent claims 1, 17 and 33 further distinguish the pending claims over these references and all of the cited art.

Consequently, all of the pending claims, Claims 1-44, are each patentable over the cited art.

Conclusion

The pending claims have been placed in condition for allowance and are clearly patentable over the cited art and should therefore be allowed.

Respectfully Submitted,

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